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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/605,918

11/06/2003

Her-Shang Chen

11095-US-PA

2917

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7590

08/23/2006

BERKELEY LAW & TECHNOLOGY GROUP
1700NW 167TH PLACE
SUITE 240
BEAVERTON, OR 97006

EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/605,918

Applicant(s)

CHEN ET AL.

Examiner

Christopher R. Lamb

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Taiwan on November 3rd, 2003. It is noted, however, that applicant has not filed a certified copy of the 92127383 application as required by 35 U.S.C. 119(b).

Specification

2. The disclosure is objected to because of the following informalities: throughout the specification and claims, the "wave-distance-dividing module" is described as dividing the light source into a plurality of light sources. This terminology is confusing for the following reason:

The Examiner considers the term "source" to be synonymous with "origin." Thus the term "light source" means "the origin of the light."

As the Examiner understands it, the wave-distance-dividing module is not dividing the origin of the light into a plurality of origins of light. It is instead dividing the light beam produced by the light source into a plurality of light beams.

The distinction is important because it means that the wave-distance-dividing module is not doing anything to the source; it is acting on the light produced by the source. The terminology used in the specification should be adjusted to make this clear.

Appropriate correction is required.

Claim Objections

3. Claims 1-11 are objected to because of the following informalities: the use of the word "source," as noted in the specification objection above. Appropriate correction is required.

4. Claims 3 and 4 are objected to because of the following informalities: in both claims the "wave-distance-diving module" should be "wave-distance-dividing module." Appropriate correction is required.

5. Claim 10 is objected to because of the following informalities: the phrase "is produced" (line 5) does not seem to belong with the rest of the sentence; the meaning of the claim is clearer without these two words. Appropriate correction is required.

6. Claim 11 objected to because of the following informalities: it appears the phrase "adjusts according to a type of final light source" (line 2) should be "adjusts a type of final light source." Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1:

The “wave-distance-dividing module” recited in the claim is not described in the specification in such a way as to enable one skilled in the art to make it without undue experimentation.

The module is mentioned in, for example, paragraphs 29, 30, and 41 of the specification. However, only its function is described: no details whatsoever have been provided on how it works, what it is made from, or even what it looks like, as the figure illustrating it (Fig. 8) lacks detail.

In deciding that the wave-distance-dividing module cannot be made without undue experimentation, the Examiner has weighed a number of factors, but put particular emphasis on the following:

(A) The nature of the invention:

The invention is directed to simultaneous multi-beam, multi-track reading of an optical disc.

The purpose of the wave-distance-dividing module is to divide the beam from the first source into multiple beams spaced $0.74\text{ }\mu\text{m}$ apart, and to divide the beam from the second source into multiple beams spaced $1.6\text{ }\mu\text{m}$ apart.

This is crucial to the invention as a whole, because the invention is able to switch between two different sorts of optical discs. If the spacing can't be adjusted, the invention would be unable to read from one or the other of the discs, and thus there would be no point in the claimed “light-switching module” either.

(B) The state of the prior art:

Although the prior art does disclose reading from the same two kinds of discs, none of the prior art of record discloses a single module with this function. For example, the closest prior art, Kosoburd et al. (US 2003/0206503), requires two separate wave-distance-dividing modules (Fig. 1: 13 and 14), one for each source. In the specific field of multi-beam, multi-track reading, modules such as the one claimed do not appear to be common practice.

(C) The amount of direction provided by the inventor:

The inventor has provided no direction. As noted above, only the module's function has been described in the specification, not its makeup, and the module has not been depicted in any detail in any drawings.

(D) The existence of working examples:

The inventor has provided no working examples.

(E) The quantity of experimentation needed to make the invention:

One skilled in the art would need to start from scratch to make this module, as the Applicant has provided no indication as to where to begin. This is not a simple case of adjusting a few parameters or performing a few experiments: one attempting to make the invention would essentially need to re-invent the invention from the beginning.

Therefore, one skilled in the art would be unable to make the invention without undue experimentation.

Regarding claims 2-11:

As they are dependent on claim 1, they also contain the wave-distance-dividing module, and are likewise rejected.

Art Unit: 2627

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the micro-adjusting module" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Note that the micro-adjusting module was introduced in claim 9, but this claim is dependent only on claim 1. It is unclear whether the Applicant is trying to claim the micro-adjusting module as described in claim 9, or separately introduce it here.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-7 rejected under 35 U.S.C. 102(e) as being anticipated by Kosoburd et al. (US 2003/0206503).

Regarding claim 1:

Kosoburd discloses an optical storage medium reading device, comprising:

an optical storage module, having an optical storage medium therein (Fig. 1);

a light-switching module, for selecting a final light source according to the optical storage medium and projecting the light from the final light source outward (not shown, but inherent: paragraph 35 shows that the light source is selected based on the kind of disc, so a light-switching module is required);

a wave-distance-dividing module, for dividing the selected final light source into equidistant light sources and projecting the light sources onto the optical storage medium (Fig. 1: 13 or 14; paragraph 36); and

an optical sensor module, for identifying data on the optical storage medium according to the light wave reflected from the optical storage medium inside the optical storage module (Fig. 1: 22; for example, paragraph 42).

Regarding claim 2:

In Kosoburd the wavelength of one of the final light sources is 650 nm (paragraph 35: Kosoburd specifically discloses 658 nm but 650 nm is within the acceptable range for a DVD source such as Kosoburd's).

Regarding claim 3:

In Kosoburd the wavelength of one of the final light sources is 780 nm (paragraph 35: Kosoburd specifically discloses 785 nm but 780 nm is within the acceptable range for a CD source such as Kosoburd's).

Regarding claim 4:

In Kosoburd the distance of separation of the light sources after the final light source is divided by the wave-distance-dividing module is 0.74 μm (paragraphs 9 and 36).

Regarding claim 5:

Art Unit: 2627

In Kosoburd the distance of separation of the light sources after the final light source is divided by the wave-distance-dividing module is 1.6 μm (paragraphs 9, 36).

Regarding claim 6:

In Kosoburd the device further comprises an alignment module for receiving light from the wave-distance-dividing module and projecting the light onto the optical storage medium (Fig. 1: 16).

Regarding claim 7:

In Kosoburd the device further comprises an alignment module for receiving light reflected from the optical storage medium and projecting the reflected light onto the optical sensor module (Fig. 1: 16).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosoburd in view of Ju et al. (US 6,064,637).

Kosoburd discloses an optical storage medium reading device as discussed above.

Kosoburd does not disclose (claim 8) "a plurality of spherical lenses for focusing the reflected light onto a plurality of optical sensor cells on the optical sensor module."

Kosoburd also does not disclose (claim 10) “a plurality of concave lenses for magnifying light falling on the optical sensor module to an image that targets various optical sensor cells on the optical sensor module.”

However, Kosoburd does disclose (paragraph 41) that a plurality of lenses may be used as part of a focusing method. Kosoburd just calls them “microlenses,” but doesn’t describe them in detail.

Ju discloses (Fig. 2) that a concave lens and a spherical lens may be used together in a focusing method (column 2, lines 30-55). They are used to focus the reflected light onto an optical sensor cell in the optical sensor module and to magnify light falling on the optical sensor module to an image that targets various optical sensor cells.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kosoburd a plurality of spherical lenses and a plurality of concave lenses for focusing and magnifying the light falling onto the optical sensor cells, as taught by Ju.

The motivation would have been to implement the focusing method only generally described by Kosoburd.

15. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosoburd in view of Alon (US 5,729,512).

Kosoburd discloses an optical storage medium reading device as discussed above.

Kosoburd does not disclose "a micro-adjusting module for shifting the optical sensor module so that light reflected from the optical storage medium can focus accurately onto the optical sensor cells of the optical sensor module."

However, Kosoburd does note that there may be a magnification error, and discloses that US Patent 5,729,512 teaches a means to correct this error (paragraph 94).

In US Patent 5,729,512, Alon discloses a micro-adjusting module for shifting the optical sensor module so that light reflected from the optical storage medium can focus accurately onto the optical sensor cells of the optical sensor module (column 10, lines 10-30).

It would have been obvious to one of ordinary skill in the art to include in Kosoburd a micro-adjusting module for shifting the optical sensor module so that light reflected from the optical storage medium can focus accurately onto the optical sensor cells of the optical sensor module, as taught by Alon.

The motivation is provided directly by Kosoburd: Kosoburd specifically references Alon's method as a means of correcting the magnification error.

Regarding claim 11:

Kosoburd in view of Alon discloses wherein the light-switching module adjusts a type of final light source selected and the location of the light sources according to the signal from the micro-adjusting module (In paragraph 69, Kosoburd discloses that the type of final light source is selected based on signal from the signal from the multi-channel conditioning circuitry: also, the location of the light sources is inherently decided

Art Unit: 2627

by the type of final light source, as illustrated in Fig. 1. In Kosoburd in view of Alon, the multi-channel conditioning circuitry is part of the micro-adjusting module, because the micro-adjusting module uses the multi-channel signals to decide how to adjust the sensor module).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Alon (US 5,959,953) gives a good overview of numerous other patents which use a plurality of beams to simultaneously read from a plurality of tracks.

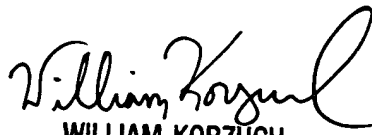
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 8/18/06


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800